

The WIPP Bulletin - January 1999

"Protecting Public Health and the Environment"

Office of Radiation and Indoor Air

A Message From The Director

By Mary Kruger

In 1992, Congress gave EPA the important task of determining whether or not the Department of Energy's (DOE) Waste Isolation Pilot Plant, or "WIPP," located near Carlsbad, New Mexico, will be protective of human health and the environment over a 10,000-year time frame. The WIPP is the nation's first deep underground facility for disposing of radioactive waste generated as by-products of nuclear weapons production and disassembly. After completing a nearly six-year, exhaustive scientific review of DOE's technical materials, conducting independent technical analyses, site audits and inspections, and preparing a thorough evaluation of thousands of public comments, we issued a "final certification decision" on May 13, 1998. This means that EPA believes that the WIPP is safe to contain transuranic waste (contaminated sludges, tools, rags, glassware and protective clothing), and will comply with our radioactive waste disposal regulations. Our decision allows DOE to begin disposal of radioactive waste in the WIPP, once all other applicable health and safety standards are met.

The final certification decision includes four conditions of compliance. We found it necessary for DOE to take additional steps to ensure that the measures actually implemented at WIPP are consistent with DOE's compliance application and with the basis for our decision. The four conditions are:

Condition 1 - Panel closure system: DOE must implement the most robust design described in its application.

Condition 2 - Quality assurance: EPA will separately approve quality assurance programs for waste generator sites.

Condition 3 - Waste characterization: EPA will separately approve waste characterization programs for waste generator sites.

Condition 4 - Passive institutional controls: DOE must submit more detailed implementation plans to deter intruders far into the future.

On July 17, 1998, EPA was sued in the D.C. Circuit Court on its WIPP certification decision. The lawsuits challenge the procedures followed and the conclusions made in our final decision. The date for hearing oral arguments has been set for May 1999.

Our work is not done, as we will continue to regulate WIPP throughout the waste emplacement phase, which DOE estimates could take as long as 35 years. Throughout the next year, we will conduct inspections of the quality assurance and waste characterization programs at DOE's waste generator sites before shipment of waste to WIPP can occur. In addition, we will monitor all activities within our purview, such as annual maintenance audits at WIPP, DOE's Carlsbad Area Office and DOE's primary support contractors.

The certification process has not been easy. EPA staff spent thousands of hours evaluating highly complex technical data, as well as reviewing sincere personal concerns. The public at large provided both kinds of information. We learned that identifying the affected public, and stakeholders, and involving them early and continuously in the process facilitated

the WIPP certification process. We will continue to involve the public in our WIPP activities throughout the facility's operational life.

Q&A's on Site Inspections

By Scott Monroe

Why does EPA inspect DOE sites?

EPA performs independent inspections of DOE sites because when EPA certified the WIPP, the Agency included the condition that DOE waste generator sites may not ship waste to the WIPP until two things happen:

EPA approves the site's quality assurance program for transuranic (TRU) waste characterization activities and assumptions; and

EPA approves the TRU waste characterization processes used at the site.

Quality assurance (QA) refers to a program whereby all necessary actions are taken to provide adequate confidence that waste characterization processes will perform satisfactorily. In other words, a site's management must establish QA procedures for all processes and then monitor on a regular basis whether personnel are following those procedures.

Waste characterization refers to technical processes that the site uses to determine the quantity and type of radioactive isotopes and other materials (e.g., rubber and metals) in the waste. For the most part, the waste that will be put in the WIPP consists of such contaminated items as clothing, gloves, containers and laboratory equipment.

EPA must inspect DOE waste generator sites because that is where waste characterization takes place. DOE made certain assumptions about the nature of TRU waste in its computer modeling of the WIPP's performance. For example, DOE assumed that no more than a set limit of plutonium would be placed in the WIPP. As long as the waste in the WIPP falls within the specified limits, the WIPP may reasonably be expected to meet EPA's standards. Consequently, DOE must characterize the waste to show that limits will not be exceeded.

What happens at a site inspection?

An inspection takes place in three stages: planning, performance and follow-up. During the planning stage, EPA arranges the dates of an inspection with DOE's Carlsbad Area Office (CAO), which coordinates all WIPP activities. Prior to the inspection, the EPA team visits CAO to review prior records of CAO's quality assurance audits at the site. EPA may also conduct preliminary, fact-gathering inspections solely for the purpose of learning about the site. From these two activities, EPA can identify a sample of important areas for review during the subsequent full-scope inspection.

During the performance stage of the site inspection, the EPA inspection team meets with personnel who perform quality assurance and waste characterization activities. The team reviews documents for completeness and correctness, questions personnel about their familiarity with requirements, and observes how waste characterization activities are actually conducted. The team records any areas in which the site does not conform to the requirements and commitments contained in DOE's WIPP compliance certification application.

In the follow-up stage, the EPA team prepares an inspection report describing EPA's Quality Assurance and Waste Characterization inspection of each area and listing any findings. Findings may be significant, insignificant or indicative of a pattern. DOE must respond by showing how a finding was, or will be corrected. When all issues are adequately resolved, the Agency will approve the site to ship waste. A site may ship only the waste that is characterized using the processes approved by EPA. If the site introduces new processes or new types of waste, then EPA must conduct a follow-up inspection.

What inspections has EPA completed so far?

Los Alamos National Laboratories (LANL) in New Mexico is the first DOE waste generator site inspected and approved

by EPA to ship waste to the WIPP as of the WIPP's certification in May 1998. LANL may ship only transuranic waste that may be characterized using EPA-approved processes. Since the WIPP was certified, EPA has performed inspections at the Rocky Flats Environmental Technology Site (RFETS) in Colorado and Idaho National Environmental and Engineering Laboratories (INEEL). However, EPA has not yet issued its compliance determination at those sites.

What inspections will happen in the future?

There are approximately 20 major sites across the country that store transuranic waste. The DOE CAO determines which sites are eligible to ship waste to the WIPP and audits them for compliance with DOE requirements. As CAO certifies each site, EPA will inspect the site to determine if it also meets EPA requirements. In addition, EPA will periodically conduct inspections at DOE waste generator sites even after the site receives initial approval from EPA, to ensure continued compliance.

How can I get involved in the inspection process?

You may submit comments to EPA about any site that EPA plans to inspect to ensure that the conditions of EPA's WIPP certification decision are met. Once an inspection is scheduled, EPA announces it in the Federal Register, on the WIPP Homepage, and on the WIPP Hotline. EPA will open a 30-day public comment period on the site's quality assurance and waste characterization plans. These plans, as well as EPA's final inspection reports and letters of decision, will be made available to the public in EPA's docket.

Staying Involved with the WIPP *By Sharon White*

Following EPA's decision in May that the WIPP is safe to open and will comply with the radioactive waste disposal standards, the Agency will continue to monitor DOE's WIPP compliance with the standards. EPA also requires DOE to report any planned or unplanned changes in activities or conditions on which EPA's decision was based. DOE must report the following:

1. In conditions at WIPP change so that the level of radioactivity exceeds the standards set by EPA, DOE must stop storing waste at WIPP and notify EPA within 24 hours;
2. any significant changes to information on which the certification decision is based must be reported to EPA within ten days; and
3. Any other changes must be reported to EPA six months after the initial certification decision and annually thereafter.

EPA received DOE's first report on November 12, 1998. EPA will review any changes and determine their significance. In addition, EPA may direct DOE to make adjustments based on the information provided.